SECTION 09250
GYPSUM DRYWALL

A. GENERAL

QUALITY ASSURANCE

Where gypsum wallboard systems with fire-resistance ratings or smoke partitions are indicated or are required to comply with governing regulations, provide materials and installations identical with applicable assemblies which have been tested and rated by UL (Underwriters Laboratories, Inc.) or other industry recognized agency.

On faces of work exposed in occupied spaces, limit offsets between planes of board faces to 1/8-inch, and limit variations from plumb and location (including warp and bow) not to exceed 1/4-inch in 8'-0".

SUBMITTALS

Submit shop drawings of glass fiber reinforced plaster shapes, aluminum column covers and aluminum radiused corner trim in accordance with Section 1B, Shop Drawings/Submittals.

DELIVERY, STORAGE AND HANDLING

Gypsum drywall shall not be delivered to the project site until immediately before application begins. All gypsum drywall materials shall be delivered in original packages, containers or bundles bearing brand name and identification nomenclature.

Gypsum drywall shall be stored inside under cover and stacked flat in a manner to keep material flat, dry, protected from weather, direct sunlight, surface contamination, traffic or other construction damage. Other materials and accessories shall remain in their original wrappings or containers, stored flat and protected from damage or bending until ready for actual use.

Handle gypsum boards in a manner to prevent damage to edges, ends or surfaces. Damaged gypsum boards or accessories shall not be incorporated within the work and shall be immediately removed from the site.

JOB CONDITIONS

Comply with requirements of referenced gypsum board application standards and recommendations of gypsum board manufacturer, for environmental conditions before, during and after application of gypsum board.

When outside temperatures are below 55 deg. F, maintain continuous interior temperature in the range of 55 deg. F to 70 deg. F for minimum period of 48 hours prior to, during, and following application of gypsum board and joint and finishing treatment materials or bonding of adhesives.

Ventilate building spaces as required to remove water in excess of that required for drying of joint treatment material immediately after its application. Avoid drafts during dry, hot weather to prevent too rapid drying.

Protect all adjacent surfaces and work by suitable means from splatter or overspray from texture surface application (if any).

B. PRODUCTS

METAL STUDS

The cold-formed structural framing shall be manufactured from steel that corresponds to the minimum requirements of 1996 A.I.S.I. standards. The steel shall have a minimum yield strength of 33 ksi for all design thicknesses, or optional 50 ksi for 54 mil (16 Ga.) and heavier members, and shall have minimum protective coating equal to G-60 galvanized finish. See Drawings for specific stud sizing. The metal stud framing shall be provided by one of the following (or approved equal):

Dale Industries, Inc.
National Gypsum Company (Gold Bond)

United States Gypsum
Dietrich Industries
Clark Steel Framing
Unimast, Inc.
Marino Industries Corp.

25-gauge studs shall be used throughout for interior applications, except 20-gauge shall be used at the following locations:

1. All 3 5/8" interior studs that are over 12-feet total height. Such studs shall be braced laterally at a maximum height of 15-feet as described hereinafter.
2. All interior studs which support wall-mounted cabinets or plumbing fixtures. See Drawings for locations of wall-mounted cabinets.

Slip runner track shall be 20-gauge galvanized steel channel track of a width to fit over metal stud tracks specified above and with 3-inch minimum legs placed at the top of all walls abutting structural members above as indicated on the Drawings.

Galvanizing repair paint shall be one of the following or approved equal:

Tnemec zinc rich primer
Carboline 658 zinc filled epoxy primer
Ameron Amercoat 68HS
Devoe Coatings 303H

GYPSUM BOARD

All gypsum board shall conform to ASTM C36, shall be 5/8-inch thick (unless noted otherwise on the Drawings) regular board with tapered edges, and shall be one of the following (or approved equal):

G-P Regular Board	Georgia-Pacific
Gold Bond Regular Gypsum Wallboard	National Gypsum
Sheetrock Regular Gypsum Panels	United States Gypsum

ACCESSORIES AND MISCELLANEOUS MATERIALS

Casing beads shall be Type 801-A metal trim manufactured by U.S. Gypsum or equal for installation with the fine mesh on the exposed face.

Corner beads shall be Type 800 corner beads manufactured by U.S. Gypsum or equal for installation with the fine mesh on the exposed face.

Control joints shall be formed by installing two (2) casing beads back-to-back with 1/16-inch gap in between, or by using a ¼" wide by 7/16" deep vee-shaped trim with fine mesh on the exposed face.

Grout for all interior door frames which occur in stud walls shall be Durabond Joint Compound manufactured by United States Gypsum Company or equal.

Fastenings shall be as follows:

Studs to track	3/8-inch drywall, Type S, pan head screws
Track to masonry	1/4-inch φ hooked anchor bolts
Track to concrete floor	Cartridge driven studs or concrete nails
Track to metal deck	Self-tapping screws (toggle bolts when required to hang heavy bulkheads in tension)

JOINT TREATMENT

Joint treatment shall be paper reinforcing tape and ready-mixed vinyl-type compound by the same manufacturer as the wallboard, except use fiberglass tape at moisture-resistant GWB.

COMPRESSIBLE FILLER

Compressible filler for use at fire-rated or smoke partitions as indicated on the Drawings, to fill gaps between partitions and roof deck and/or structure and to close gaps around pipes, ducts, flues, and other penetrations and to fill gaps between gypsum board and other materials shall be Termafiber Safing Insulation manufactured by United States Gypsum as specified in Section 07200.

FASTENERS

Screws shall be 1-inch, Type S, drywall screws for securing gypsum board to metal studs and furring channels. Longer screws, as recommended by the gypsum board manufacturer, shall be utilized to secure the exposed layer of gypsum board to the suspension system through the concealed layer at double layer ceilings or bulkheads.

Nails shall be annular ring nails, GWB 54, 1 3/8-inches long for 1/2-inch GWB, 1 1/2-inches long for 5/8-inch GWB, conforming to ASTM C 514.

Adhesive shall be Mastic No. 11 manufactured by Dow Corning Corporation unless other adhesive is recommended by the gypsum board manufacturer.

C. EXECUTION

INSTALLATION OF METAL STUDS

1. Install steel framing to comply with ASTM C 754 and ASTM C 840.
2. Align track at floor, top of masonry walls, frames and overhead structure as indicated on the Drawings. Secure base track at 24-inch centers and at ends with power-driven fasteners as specified above. Head track shall be held within the down-turn legs of specially formed 20-gauge galvanized steel slip runner track welded or secured to bottom side of structure above for lateral support with deflection allowance of 1/2-inch or as otherwise indicated on the Drawings. See information earlier in this Section for locations where the slip runner track is required at top of walls. Bulkhead or other similar construction which is to be hung under tension shall have head track secured to structure at 16-inch centers minimum. Butt weld or splice track at joints.
3. Set studs at partition ends, corners, and intersections; at jambs of openings and at 16-inch centers in between unless shown otherwise on the Drawings. Seat studs squarely into track and plumb or align. Secure studs to track as required. **Studs shall be doubled adjacent to all metal frame jambs whether shown on the Drawings or not.**
4. Where stud partitions exceed 15-feet in height, provide lateral bracing to the structure above so the unbraced height of the partition does not exceed 15 feet. If the studs are of sufficient length to extend full height without splicing, the studs shall be braced by attaching a horizontal runner channel to one face of the studs and extending diagonal 3 5/8" metal stud knee braces from that channel to the structure. Spacing of knee braces shall be a maximum of 8-feet on center.
5. If the partition is of such height that the studs must be spliced, do so by installing two horizontal runner channels back-to-back (one for the top of the lower wall and one for the bottom of the upper wall). Fasten the runner channels to each other and then install diagonal knee braces at 8-feet maximum centers as described above.
6. Install horizontal stiffener channels through studs at cut-out locations at maximum 6'-0" centers in partitions which do not have GWB installed in both faces.
7. Install knee braces for metal frames and for walls which terminate above the ceiling as required to provide lateral support.
8. At special slip runner tracks at tops of walls where deflection of the roof structure is anticipated, do not anchor GWB to slip runner track.
9. At exterior wall applications, recoat all cut edges of metal studs with galvanizing repair paint.
10. Track at floor shall be deep leg track.

GROUTING OF METAL FRAMES IN STUD WALLS

Grout all hollow metal frames which occur in stud walls by spot-grouting at the jamb anchor clips prior to inserting the gypsum board into the frame. Grout tightly to assure solid anchorage of the frame. Do not fill metal frame jambs full of grout.

INSTALLATION OF GYPSUM BOARD

Install and finish gypsum board to comply with ASTM C 840.

Apply gypsum board beginning with the top wall panel, butted against the deck. At walls with slip runner track, hold drywall down 5/8" below deck/structure. Apply panels of maximum practical length with long dimension at right angle to supports. Center vertical joints over supports and stagger them from those of adjacent panel rows. Vertical joints on opposite sides of a partition shall occur on different studs. Boards shall be brought into contact with each other, but shall not be forced into place.

End joints may occur not closer than 8 inches from either side of openings in walls. No joint shall align with edges of openings, and joints above openings shall be centered over openings.

Hold bottom edge of gypsum board off the floor by ½".

Fastening panels shall be held in firm contact with the support member while the screws are being driven. Fastenings shall proceed from the central portion of the board toward ends and edges. Fastenings shall be driven home with the heads slightly below the surface of the board. Care shall be taken to avoid breaking the paper face. Improperly driven fastenings shall be removed. Space screws at 15-inch centers and locate 3/8-inch to 1/2-inch from edges of panels.

After installation, pound on walls and ceilings to detect loose fastenings and push on board adjacent to fasteners to see if there is movement. If loose fasteners are detected, drive them tight. Whenever fastenings have punctured paper, hold board tight against framing and install another fastener properly, approximately 1-1/2" from fastener head which punctured paper, and remove the faulty fastener. When fastening wallboard to second side of a partition, check the opposite side for fasteners loosened by pounding and drive them tight again.

INSTALLATION OF ACCESSORIES

Corner beads shall be applied at outside corners with fasteners at 3-inch centers maximum on each flange of bead with fasteners staggered.

Casing beads shall be applied to all exposed edges and ends of gypsum wallboard, back to back at control joint locations and wherever indicated on the Drawings, with fasteners at 6-inch centers.

Control joints shall be placed where shown on the Drawings in continuous lengths with back-to-back casing beads spaced with uniform 1/16" gap between backs. Gap shall be larger where shown on the Drawings at locations where wallcoverings are to be tucked into the joint.

COMPRESSIBLE FILLER

Completely fill all voids and gaps in and around the gypsum board at fire partitions, smoke partitions, and sound partitions. See description of these locations earlier in this Section. Tightly fit filler into these spaces to resist long-term displacement.

JOINT AND CORNER TREATMENT

A uniform, thin layer of joint compound shall be applied over the joint approximately 4 inches wide. Tape shall be centered over the joint and embedded into the compound, leaving sufficient joint compound under tape to provide proper bond. Inside corner angles shall be reinforced with tape folded to conform to the angle and embedded into the compound. Taping will be required where gypsum board is concealed above ceilings but joints will not need to be finished in such areas.

FINISHING

After compound is thoroughly dry, the tape shall be covered with a coat of joint compound or topping compound spread over the tape approximately 3 inches on each side of the tape and feathered out at the edge. After thoroughly dry, another coat of joint compound or topping compound shall be applied with a slight, uniform crown

over the joint. This coat shall be smooth and the edges feathered approximately 3 inches beyond the preceding coat.

All inside corners shall be coated with at least one coat of joint compound or topping compound with the edges feathered out. Flanges of wallboard corner bead shall be concealed by at least two coats of compound. The first coat shall be joint compound, and the second coat may be joint compound or topping compound feathered out approximately 9 inches on both sides of the exposed metal nose.

Allow each application of compound to joint and fastener heads to dry, then sand if necessary. Caution shall be used to avoid roughing of wallboard paper. Where more than one compound coat is specified herein, allow 24 hours drying time between coats.

Provide the following levels of gypsum board finish per GA-214:

1. Level 1 for ceiling plenum areas and concealed areas, unless a higher level of finish is required for fire-resistant-rated assemblies and sound-rated assemblies.
2. Level 4 for exposed gypsum board surfaces. (No textured ceiling coatings will be allowed).